

Commutative Algebra Seminar

Functorial Test modules

Axel Stabler (University of Michigan)

Abstract: In my talk I will report on joint work with Manuel Blickle. I will explain how one can generalize the definition of test ideals τ to so-called Cartier modules in a functorial way. We obtain several transformation rules with respect to $f^!$ and f_* for various classes of morphisms $f: X \rightarrow Y$, e.g. for f smooth one has an isomorphism $f^! \tau = \tau f^!$. Part of the reason for working in this generality is that one has an equivalence with constructible étale p -torsion sheaves up to nilpotence of Cartier modules and these results further support the idea that the test module construction relates to étale nearby cycles similarly to the complex situation where multiplier ideals relate to complex nearby cycles.

Monday, January 23 at 1:00 PM in SEO 427